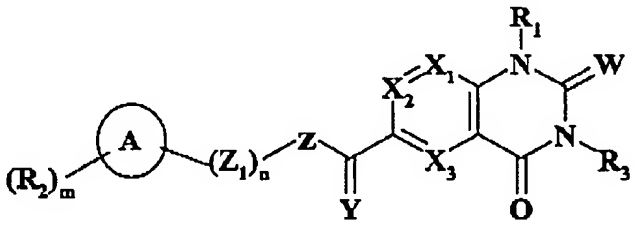
AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of claims:

Claim 1 (Previously presented). A compound selected from those of formula (I):



(I)

in which:

R_1 represents hydrogen;

W represents an oxygen atom, a sulphur atom, or a group =N-R', in which R' represents (C_1-C_6)alkyl, hydroxyl, or cyano,

X_1 and X_3 represent, independently of each other, a group -C-R_6 in which R_6 represents a group selected from hydrogen, (C_1-C_6)alkyl, amino, mono(C_1-C_6)alkylamino, di(C_1-C_6)alkylamino, hydroxyl, (C_1-C_6)alkoxy, and halogen;

X_2 is nitrogen;

Y represents a group selected from oxygen atom, sulphur atom, -NH, and -N(C_1-C_6)alkyl,

Z represents:

- an oxygen atom, a sulphur atom,

- or a group $-NR_7$ in which R_7 represents a group selected from hydrogen, (C_1-C_6)alkyl, aryl(C_1-C_6)alkyl, cycloalkyl, aryl, and heteroaryl, and
- when Y is an oxygen atom, a sulphur atom, or a group $-N(C_1-C_6)$alkyl, Z optionally represents a carbon atom which is unsubstituted or substituted with a (C_1-C_6)alkyl, an aryl, an aryl(C_1-C_6)alkyl, an aromatic or non-aromatic heterocycle or a cycloalkyl,

n is an integer from 1 to 8 inclusive,

Z_1 represents $-CR_8R_9$ wherein R_8 and R_9, independently of each other, represent a group selected from hydrogen, (C_1-C_6)alkyl, halo(C_1-C_6)alkyl, halogen, amino, OR_4, SR_4 or $C(=O)OR_4$ in which R_4 represents a hydrogen or (C_1-C_6)alkyl, and

- when n is greater than or equal to 2, the hydrocarbon chain Z_1 optionally contains one or more multiple bonds,
- and/or one of the carbon atoms in the hydrocarbon chain Z_1 may be replaced with an oxygen atom, a sulphur atom which is unsubstituted or substituted with one or two oxygen atoms, or a nitrogen atom which is unsubstituted or substituted with a (C_1-C_6)alkyl,
- and when one of the carbon atoms in the hydrocarbon chain Z_1 is replaced with a sulphur atom which is unsubstituted or substituted with one or two oxygen atoms, then the group $-C(=Y)-Z-$ optionally may be absent in the general formula (I),

- A represents an aromatic or non-aromatic, 5- or 6-membered monocycle comprising from 0 to 4 heteroatoms selected from nitrogen, oxygen and sulphur,

m is an integer from 0 to 7 inclusive,

the group(s) R_2, which may be identical or different, is (are) selected from $(C_1$-$C_6)$alkyl, halogen, -CN, NO_2, SCF_3, $-CF_3$, $-OCF_3$, $-NR_{10}R_{11}$, $-OR_{10}$, $-SR_{10}$, SOR_{10}, $-SO_2R_{10}$, $-(CH_2)_kSO_2NR_{10}R_{11}$, $-X_5(CH_2)_kC(=O)OR_{10}$, $-(CH_2)_kC(=O)OR_{10}$, $-X_5(CH_2)_kC(=O)NR_{10}R_{11}$, $-(CH_2)_kC(=O)NR_{10}R_{11}$, and $-X_4$-R_{12} in which:

- X_5 represents a group selected from oxygen, sulphur optionally substituted by one or two oxygen atoms, and nitrogen substituted by hydrogen or $(C_1$-$C_6)$alkyl,

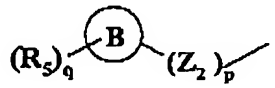
- k is an integer from 0 to 3 inclusive,

- R_{10} and R_{11}, which may be identical or different, are selected from hydrogen and $(C_1$-$C_6)$alkyl,

- X_4 represents a group selected from single bond, $-CH_2$-, oxygen atom, sulphur atom optionally substituted by one or two oxygen atoms, and nitrogen atom substituted by hydrogen atom or $(C_1$-$C_6)$alkyl group,

- R_{12} represents an aromatic or non-aromatic, heterocyclic or non-heterocyclic, 5- or 6-membered ring which is unsubstituted or substituted with one or more groups, which may be identical or different, selected from $(C_1$-$C_6)$alkyl, halogen, hydroxyl and amino, and when the ring is heterocyclic, it comprises from 1 to 4 heteroatoms selected from nitrogen, oxygen and sulphur;

- R_3 represents the group of formula :



✓ in which p is an integer from 0 to 8 inclusive,

- ✓ Z_2 represents $-CR_{13}R_{14}$ wherein R_{13} and R_{14}, independently of each other, represent a group selected from hydrogen, $(C_1\text{-}C_6)$alkyl, phenyl, halo$(C_1\text{-}C_6)$alkyl, halogen, amino, OR_4, SR_4 and $-C(=O)OR_4$ in which R_4 represents hydrogen or $(C_1\text{-}C_6)$alkyl, and
  - when p is greater than or equal to 2, the hydrocarbon chain Z_2 optionally contains one or more multiple bonds,
  - and/or one of the carbon atoms in the hydrocarbon chain Z_2 may be replaced with an oxygen atom, a sulphur atom which is unsubstituted or substituted with one or two oxygen atoms, a nitrogen atom which is unsubstituted or substituted with a $(C_1\text{-}C_6)$alkyl, or a carbonyl group,

- ✓ B represents a group selected from:
  - an aromatic or non-aromatic 5- or 6-membered monocycle comprising from 0 to 4 heteroatoms selected from nitrogen, oxygen and sulphur, and
  - a bicycle, composed of two aromatic or non-aromatic, 5- or 6-membered rings, which may be identical or different, comprising from 0 to 4 heteroatoms selected from nitrogen, oxygen and sulphur,

- ✓ q is an integer from 0 to 7 inclusive,

- ✓ the group(s) R_5, which may be identical or different, is (are) selected from $(C_1\text{-}C_6)$alkyl, halogen, CN, NO_2, CF_3, OCF_3, $-(CH_2)_kNR_{15}R_{16}$, $-N(R_{15})C(=O)R_{16}$, $-N(R_{15})C(=O)OR_{16}$, $-N(R_{15})SO_2R_{16}$, $-N(SO_2R_{15})_2$, $-OR_{15}$, $-S(O)_{k1}R_{15}$, $-SO_2\text{-}N(R_{15})\text{-}(CH_2)_{k2}\text{-}NR_{16}R_{17}$, $-(CH_2)_kSO_2NR_{15}R_{16}$, $-X_7(CH_2)_kC(=O)OR_{15}$, $-(CH_2)_kC(=O)OR_{15}$, $-C(=O)O\text{-}(CH_2)_{k2}\text{-}NR_{15}R_{16}$, $-C(=O)O\text{-}(CH_2)_{k2}\text{-}C(=O)OR_{18}$, $-X_7(CH_2)_kC(=O)NR_{15}R_{16}$, $-(CH_2)_kC(=O)NR_{15}R_{16}$, $-R_{19}\text{-}C(=O)OR_{15}$, $-X_6\text{-}R_{20}$, and $-C(=O)\text{-}R_{21}\text{-}NR_{15}R_{16}$ in which :

- X_7 represents a group selected from oxygen atom, sulphur atom optionally substituted by one or two oxygen atoms, and nitrogen atom substituted by a hydrogen atom or a (C_1-C_6)alkyl group,

- k is an integer from 0 to 3 inclusive,

- k1 is an integer from 0 to 2 inclusive,

- k2 is an integer from 1 to 4 inclusive,

- R_{15}, R_{16} and R_{17}, which may be identical or different, are selected from hydrogen and (C_1-C_6)alkyl,

- R_{18} represents a group selected from (C_1-C_6)alkyl, $-R_{21}-NR_{15}R_{16}$, $-R_{21}-NR_{15}-C(=O)-R_{21}-NR_{16}R_{17}$, and $-C(=O)O-R_{21}-NR_{15}R_{16}$ in which R_{21} represents a linear or branched (C_1-C_6)alkylene group, and R_{15}, R_{16} and R_{17} are as defined hereinbefore,

- R_{19} represents a (C_3-C_6)cycloalkyl group,

- X_6 represents a group selected from single bond, $-CH_2-$, oxygen atom, sulphur atom optionally substituted by one or two oxygen atoms, and nitrogen atom substituted by hydrogen atom or (C_1-C_6)alkyl group,

- R_{20} represents an aromatic or non-aromatic, heterocyclic or non-heterocyclic, 5- or 6-membered ring, which is unsubstituted or substituted with one or more groups, which may be identical or different, selected from (C_1-C_6)alkyl, halogen, hydroxyl, oxo, cyano, tetrazole, amino, and $-C(=O)OR_4$ wherein R_4 represents hydrogen or (C_1-C_6)alkyl, and, when the ring is heterocyclic, it comprises from 1 to 4 heteroatoms selected from

nitrogen, oxygen and sulphur, optionally, the racemic forms thereof, isomers thereof, N-oxides thereof, and the pharmaceutically acceptable salts thereof.

Claim 2 (canceled).

Claim 3 (currently amended). A compound of formula (I) according to Claim 1 ~~characterized in that:~~ wherein:

n is an integer from 1 to 6 inclusive,

Z_1 represents $-CR_8R_9$ wherein R_8 represents a hydrogen atom and R_9 represents a hydrogen atom or a methyl group, and

- when n is greater than or equal to 2, the hydrocarbon chain Z_1 optionally contains a double bond,
- or, one of the carbon atoms in the hydrocarbon chain Z_1 may be replaced with an oxygen atom, or a sulphur atom which is unsubstituted or substituted with one or two oxygens,

A represents a group selected from phenyl, pyridyl, thienyl, imidazolyl, furyl, and piperidyl,

m is an integer from 0 to 7 inclusive,

the group(s) R_2, which may be identical or different, is (are) selected from $(C_1\text{-}C_6)$alkyl, halogen, -CN, $-CF_3$, $-OCF_3$, $-NR_{10}R_{11}$, $-OR_{10}$, $-SR_{10}$, $-SO_2R_{10}$, $-(CH_2)_kSO_2NR_{10}R_{11}$, $-X_5(CH_2)_kC(=O)OR_{10}$, $-(CH_2)_kC(=O)OR_{10}$, $-X_5(CH_2)_kC(=O)NR_{10}R_{11}$, $-(CH_2)_kC(=O)NR_{10}R_{11}$, and $-X_4\text{-}R_{12}$ in which:

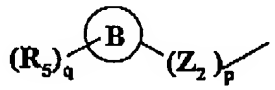
- ✓ X_5 represents O, S or NH,
- ✓ k is an integer from 0 to 3 inclusive,

- ✓ R_{10} and R_{11}, identical or different, are selected from hydrogen and $(C_1$-$C_6)$alkyl,
- ✓ X_4 represents $-CH_2-$, or an oxygen atom,
- ✓ R_{12} represents a phenyl group which is unsubstituted or substituted with one or more groups, which may be identical or different, selected from $(C_1$-$C_6)$alkyl, halogen, hydroxyl and amino,

optionally, the racemic forms thereof, isomers thereof, N-oxides thereof, and the pharmaceutically acceptable salts thereof.

Claim 4 (currently amended). A compound of formula (I) according to Claim 1 ~~characterized in that:~~ wherein:

R_3 represents the group of formula:



- in which p is an integer from 0 to 3 inclusive,

- Z_2 represents $-CR_{13}R_{14}$ wherein R_{13} and R_{14}, independently of each other, represent a group selected from hydrogen, methyl, or phenyl, and
  - when p is greater than or equal to 2, the hydrocarbon chain Z_2 optionally contains one double bond,
  - or one of the carbon atoms in the hydrocarbon chain Z_2 may be replaced with an oxygen atom, a sulphur atom which is unsubstituted or substituted with one or two oxygen atoms, a nitrogen atom which is unsubstituted or substituted with a $(C_1$-$C_6)$alkyl, or a carbonyl group,

- B represents a group selected from phenyl, pyridyl, thienyl, imidazolyl, furyl, 1,3-benzodioxolyl, benzodioxinyl, benzothienyl, benzofuryl, 2,1,3-benzothiadiazolyl, benzofurazanyl, naphthyl, and indolyl,

- q is an integer from 0 to 3 inclusive,

- the group(s) R_5, which may be identical or different, is (are) selected from $(C_1\text{-}C_6)$alkyl, halogen, CN, NO_2, CF_3, OCF_3, $-(CH_2)_kNR_{15}R_{16}$, $-N(R_{15})C(=O)R_{16}$, $-(R_{15})C(=O)OR_{16}$, $-N(R_{15})SO_2R_{16}$, $-N(SO_2R_{15})_2$, $-OR_{15}$, $-S(O)_{k1}R_{15}$, $-SO_2\text{-}N(R_{15})\text{-}(CH_2)_{k2}\text{-}NR_{16}R_{17}$, $-(CH_2)_kSO_2NR_{15}R_{16}$, $-X_7(CH_2)_kC(=O)OR_{15}$, $-(CH_2)_kC(=O)OR_{15}$, $-C(=O)O\text{-}(CH_2)_{k2}\text{-}NR_{15}R_{16}$, $-X_7(CH_2)_kC(=O)NR_{15}R_{16}$, and $-(CH_2)_kC(=O)NR_{15}R_{16}$ in which :
  - X_7 is S, O or NH,
  - k is an integer from 0 to 3 inclusive,
  - k1 is an integer from 0 to 2 inclusive,
  - k2 is an integer from 1 to 4 inclusive,
  - R_{15}, R_{16} and R_{17}, which may be identical or different, are selected from hydrogen and $(C_1\text{-}C_6)$alkyl,

optionally, the racemic forms thereof, isomers thereof, N-oxides thereof, and the pharmaceutically acceptable salts thereof.

Claims 5 to 8 (canceled).

Claim 9 (currently amended). A compound of formula (I) according to Claim 1 ~~characterized in that :~~ wherein:

W represents an oxygen atom,

Y represents an oxygen atom,

Z represents a NH group,

Z_1 represents a methylene group,

and n is equal to one,

optionally, the racemic forms thereof, isomers thereof, N-oxides thereof, and the pharmaceutically acceptable salts thereof.

Claims 10 and 11 (canceled).

Claim 12 (currently amended). A compound of formula (I) according to Claim 1 ~~characterized in that :~~ wherein:

X_1 and X_3 represent each a -CH group,

and

optionally, the racemic forms thereof, isomers thereof, N-oxides thereof, and the pharmaceutically acceptable salts thereof.

Claim 13 (currently amended). A compound of formula (I) according to Claim 1 ~~characterized in that :~~ wherein:

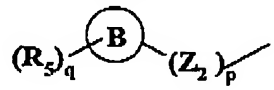
A represents a group selected from phenyl, and pyridyl,

m is equal to 0 or 1,

and R_2 represents a group selected from $(C_1$-$C_6)$alkoxy, hydroxy, halogen, and $(C_1$-$C_6)$thioalkoxy,

optionally, the racemic forms thereof, isomers thereof, N-oxides thereof, and the pharmaceutically acceptable salts thereof.

Claim 14 (currently amended). A compound of formula (I) according to Claim 1 ~~characterized in that~~ wherein R_3 represents a group of formula :



in which:

p is equal to 1,

Z_2 represents a methylene group,

B represents a group selected from phenyl, pyridyl, 1,3-benzodioxolyl, and benzofurazanyl,

q is an integer from 0 to 2 inclusive,

and R_5 represent(s) a group selected from halogen, CN, $-(CH_2)_kNR_{15}R_{16}$, $-S(O)_{k1}R_{15}$, $-(CH_2)_kSO_2NR_{15}R_{16}$, $-(CH_2)_kC(=O)OR_{15}$, $-(CH_2)_kC(=O)NR_{15}R_{16}$, and $-X_6-R_{20}$, in which :

- k is an integer from 0 to 1 inclusive,
- k1 is an integer from 0 to 2 inclusive,
- R_{15} and R_{16}, which may be identical or different, are selected from hydrogen and (C_1-C_6)alkyl,
- X_6 represents a bond,
- $-R_{20}$ represents a 5-membered heterocyclic ring comprising from 3 to 4 heteroatoms selected from oxygen and nitrogen and optionally substituted with a methyl group or an oxo group,

optionally, the racemic forms thereof, isomers thereof, N-oxides thereof, and the pharmaceutically acceptable salts thereof.

Claim 15 (previously presented). A compound of formula (I) according to Claim 1, which is:

- Methyl 4-[6-(4-Methoxy-benzylcarbamoyl)-1-methyl-2,4-dioxo-1,4-dihydro-2*H*-pyrido[3,4-*d*]pyrimidin-3-ylmethyl]-benzoate,
- 4-[6-(4-Methoxy-benzylcarbamoyl)-1-methyl-2,4-dioxo-1,4-dihydro-2*H*-pyrido[3,4-*d*]pyrimidin-3-ylmethyl]-benzoic acid,
- 4-[6-(3-Methoxy-benzylcarbamoyl)-1-methyl-2,4-dioxo-1,4-dihydro-2*H*-pyrido[3,4-*d*]pyrimidin-3-ylmethyl]-benzoic acid, and
- 3-(4-Cyano-benzyl)-1-methyl-2,4-dioxo-1,2,3,4-tetrahydro-pyrido[3,4-*d*]pyrimidine-6-carboxylic acid 4-methoxy-benzylamide.

Claims 16 to 28 (canceled).

Claim 29 (currently amended). A pharmaceutical composition comprising a compound according to any one of Claims 1, 3, 4, 9, or ~~11~~ 12-15 inclusive and a pharmaceutically acceptable excipient.

Claims 30-39 (canceled).